

author has examined, all develop in their early stage multicellular masses like those of *Mucor romanus*.

The *Botrytis*-form of *Mucor romanus*, and two analogous forms which the author has succeeded in producing from two other Mucors, also have similar bodies or their equivalents. One of these produces a quantity of black sclerotium almost as big as ergot. Many other Mucedines are states of thecasporous fungi. May not the *Botrytis*-Mucors be in the same case?

Perhaps the yellow bodies may produce an Hymenomyceete. Two sorts of *Coprinus* have been seen by the author to commence by enrolment and segmentation of a mycelium-thread.

M. Carnoy concludes that possibly these facts may lead to the uniting in one group of the *Mucedines*, the *Mucorineæ*, the *Ascomycetes*, and the *Hymenomyces*. These four general forms, of which as many classes have been made, are, in the author's opinion, only phases of existence destined to be passed through by one and the same mycological species, in order to complete and bring to a close the entire cycle of its development.

General Outline of the Organization of the Animal Kingdom, and Manual of Comparative Anatomy. By THOMAS RYMER JONES, F.R.S. &c. 4th edition. 8vo. London: Van Voorst, 1871.

The short time that has elapsed between the publication of the third and fourth editions of Professor Rymer Jones's 'Animal Kingdom' shows that its reputation is so well established and its usefulness so generally recognized that for us to express any opinion upon its merits would be almost a work of supererogation. With all its defects (and we must confess that the author's intense conservatism makes these more numerous than they would otherwise be), Professor Jones's volume is actually the only work in our language to which we can refer the student as to a storehouse of sound zoological and anatomical details systematically arranged; and if the author would only add to his other qualifications a rather clearer idea of morphological matters, it would really leave little to be desired.

In the present publication Professor Jones has carried a step further the reform in his classification which was inaugurated in his third edition, and has accepted the group *Cœlenterata* as a zoological subkingdom. Nevertheless, by some strange confusion, he has failed to get the benefit from this step which he might have done; indeed it is questionable whether, as regards the value of his teaching, he would not have done better to leave matters as they were. From his expressions at page 4, and from the general arrangement of his chapters, he appears to consider that the Cuvierian Radiata have been divided into the two groups of Protozoa and Cœlenterata, than which nothing can be more erroneous; and this error is carried out by the arrangement of the Helminthozoa (including Turbellaria) and Echinodermata under the subkingdom Cœlen-

terata! Such a mistake is incomprehensible, and certainly much to be regretted.

The Cirripedia, which were regarded by Professor Jones as Mollusca long after every body else had recognized their Annulose nature, are now placed by him in the Articulate series; but he still retains such statements as that "the Cirripedia present a strange combination of articulated limbs with many of the external characters of a mollusk," which would seem to intimate that he feels by no means sure of their true position. And yet one would think that the mode of development of these creatures could leave no doubt as to their being not only Articulata, but Crustacea. But Professor Jones gives but a scanty notice of the interesting metamorphoses of the Cirripeds, and does not seem at all to appreciate their importance. From a similar unappreciation, his classification of the Crustacea is in a very backward state.

But we will carry no further the ungrateful task of fault-finding. The defects that we have indicated, and especially that relating to the Cœlenterata, are, however, of a nature to prevent any thing like a high or philosophical view being taken of the lower divisions of the animal kingdom; and we can only hope that a fifth edition of the work may speedily be called for, and that its author will not allow his conservative feelings again to lead him astray.

PROCEEDINGS OF LEARNED SOCIETIES.

ROYAL SOCIETY.

January 19, 1871.—General Sir Edward Sabine, K.C.B., President, in the Chair.

"On the Structure and Development of the Skull of the Common Frog (*Rana temporaria*)." By W. KITCHEN PARKER, F.R.S.

At the close of my last paper "On the Skull of the Common Fowl," I spoke of bringing before the Royal Society another, treating of that of the osseous fish. I was working at the early conditions of the salmon's skull at the time.

I was, however, led to devote my attention to another and more instructive type early in the following year; for it was then (January 1869) that Professor Huxley was engaged in preparing his very important paper "On the Representation of the Malleus and the Incus of the Mammalia in the other Vertebrata" (see Zool. Proc. May 27, 1869).

In repeating some of his observations for my own instruction, it occurred to me to renew some researches I had been making from time to time on the frog and toad. The results were so interesting to us both, that it was agreed for me to work exhaustively at the development of the frog's skull before finishing the paper on that of the salmon. On this account Professor Huxley mentions in his paper (*op. cit.* p. 406) that he leaves the Amphibia out of his *de-Ann. & Mag. N. Hist.* Ser. 4. Vol. vii.